

300 LAKESIDE DRIVE, OAKLAND, CALIFORNIA 94643

DATA SHEET

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| Company/Plant Kaiser Aluminum & Chemical Corporation 300 Lakeside Drive Oakland, California 94643 | Issue Date June 1, 1985 | Identification Number Dms 2074 |
| Trade Name (Common Name or Synonym) Aluminum Alloys | Emergency Phone Number 415-271-5391 | |
| Chemical Name Aluminum (does not include lithium and nickel alloys) | Formula Al | DOT Identification Number NA |

I. INGREDIENTS

| Material or Component | | | 1984-85 ACGIH TLV (mg/m ³) * | OSHA 1910.1000 TWA (mg/m ³)** |
|---------------------------------|------------|-------------------------|---|---|
| BASE METAL | CAS NUMBER | % COMPOSITION BY WEIGHT | | |
| Aluminum | 7429-90-5 | 80.0-99.7 | 10.0, as metal dust and oxide 5.0, as welding fume | Not established |
| MAXIMUM % COMPOSITION BY WEIGHT | | | | |
| ALLOYING ELEMENT | CAS NUMBER | 1.0-10.0 1.0-20.0 | 1984-85 ACGIH TLV (mg/m ³)* | OSHA 1910.1000 TWA (mg/m ³)** |
| Cobalt, Co | 7440-48-4 | W, P | 0.1 | 0.1 |
| Copper, Cu | 7440-50-8 | W P | 0.2, as fume | 0.1, as fume |
| Iron, Fe | 1309-37-1 | W, P | 5.0, as fume | 10.0, as fume |
| Magnesium, Mg | 1309-48-4 | W P | 10.0, as fume | 15.0, as fume |
| Manganese, Mn | 7439-96-5 | W | 1.0, as fume | 5.0 Ceiling |
| Silicon, Si | 7440-21-3 | W, P | 10.0, as total dust 5.0, as respirable dust | Not established |
| Tin, Sn | 7440-31-5 | P | 2.0, as oxide and metal | 5.0, as inorganic compounds |
| Zinc, Zn | 1314-13-2 | W, P | 5.0, as fume | 5.0, as fume |

Key:
W = Wrought aluminum (fabricated products)
P = Prime and ingot hardener aluminum
*TLV = Threshold-Limit-Value
**TWA = Time-Weighted-Average

Note: Kaiser Aluminum alloys may be composed of all variations of the alloys shown here. In addition, the welding of aluminum alloys may produce fumes and dusts listed in Section VII, #7.

II. PHYSICAL DATA

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| Material is (At Normal Conditions): <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other | | Appearance and Odor Metallic appearance; no odor | |
| Acidity/Alkalinity pH = NA | Melting Point 440-1215 °F Boiling Point NA °F | Specific Gravity (H ₂ O = 1) 2.5 - 2.9 Solubility in water (% by weight) nil | Vapor Pressure (mm Hg at 20°C) NA |

III. PERSONAL PROTECTIVE EQUIPMENT

Appropriate personal protective equipment is required when melting, casting, machining, forging, or otherwise processing. The nature of the processing activity will determine what form of equipment is necessary, i.e., glasses, respirator, protective clothing, and ear protection.

IV. EMERGENCY MEDICAL PROCEDURES

For skin contact, remove particles by thoroughly washing with soap and water.

For eye contact, flush with water for at least 15 minutes. Get medical attention if irritation persists.

V. HEALTH/SAFETY INFORMATION

| | | | | | | | | | | |
|--------------------|---|--|----|---|--|-------------------------|--|--|--|--|
| Health | Inhalation | Not likely unless material machined, welded or remelted. Short term overexposure to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of throat and nose. | | | | | | | | |
| | Ingestion | Not likely. | | | | | | | | |
| | Skin | Not likely. | | | | | | | | |
| | Eyes | May irritate eyes when welding or plasma cutting. | | | | | | | | |
| | Threshold Limit Value See Ingredients Section. | | | | | | | | | |
| Fire and Explosion | Flash Point | NA | °F | Auto Ignition Temperature | | Flammable Limits in Air | | Extinguishing Media | | |
| | | | | NA | | °F | | Lower Upper NA % % | | |
| | Unusual Fire and Explosion Hazards | | | | | | | Extinguishing Media Not to be Used | | |
| | Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive air mixtures. SEE ADDITIONAL INFORMATION. | | | | | | | Do not use water or halogen on dust fires. | | |
| Reactivity | Stability | | | Incompatibility (Materials to Avoid) | | | | | | |
| | <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable | | | Anhydrous bromine. | | | | | | |
| | Conditions to Avoid | | | See Fire and Explosion Section. SEE ADDITIONAL INFORMATION. | | | | | | |
| | Hazardous Decomposition Products | | | See Fire and Explosion Section. SEE ADDITIONAL INFORMATION. | | | | | | |

VI. ENVIRONMENTAL

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| Spill or leak procedures |
| NA |
| Waste Disposal Methods* |
| Used or unused product should be tested to determine hazard status and disposal requirements under federal, state, or local laws and regulations. |
| *Disposer must comply with Federal, State and Local disposal or discharge laws. |

VII. ADDITIONAL INFORMATION

1. Halogen acids and sodium hydroxide in contact with aluminum may generate explosive mixtures of hydrogen.
2. Finely divided aluminum will form explosive mixtures in air. It will also form explosive mixtures in air in the presence of bromates, iodates, or ammonium nitrate.
3. When remelting aluminum scrap, entrapped moisture or the presence of strong oxidizers such as ammonium nitrate could cause an explosion. This applies to the collection of moisture in saw cavities as well. Moisture must be driven off prior to remelting.
4. Do not touch cast aluminum metal or heated aluminum product without knowing metal temperature. Aluminum experiences no color change during heating. If metal is hot and touched, burns can result.
5. Aluminum powder must be packaged and shipped as a Flammable Solid, UN1396.
6. Hard alloy ingots in the 2000 and 7000 series must be stress-relieved to prevent explosion when sawed.
7. The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infra-red radiation and ultra-violet radiation.

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